

SCIENCE AND TECHNOLOGY PROGRAM

(EC-0170)

EXECUTIVE SUMMARY

BORROWER AND GUARANTOR: Republic of Ecuador

EXECUTING AGENCY: The Government of Ecuador (GOE) will transfer the loan and local counterpart resources to the Secretaría Nacional de Ciencia y Tecnología [National Office of Science and Technology] (SENACYT), which will execute the program through the Fundación para la Ciencia y la Tecnología [Science and Technology Foundation] (FUNDACYT) under an agreement for technical-cooperation funding and economic assistance.

AMOUNT AND SOURCE:

IDB:	US\$24 million	(OC)	80%
Local counterpart funding:	US\$ 6 million		20%
Total:	US\$30 million		100%

FINANCIAL TERMS AND CONDITIONS:

Amortization period:	25 years
Disbursement period:	4 years
Interest rate:	variable
Inspection and supervision:	1%
Credit fee:	0.75%

OBJECTIVES: The basic purpose of the program is to help strengthen the scientific and technological capacity of Ecuador to transform it into a stepping stone for economic and social development. The program will contribute in particular to boosting the national capacity to assimilate, adapt, generate, and use science and technology as useful instruments to shape a new pattern for the country's entry into the world economy, based on the efficiency of its productive activities and rational use of its natural resources.

DESCRIPTION: The program consists of the following five components: (a) approximately 50 research and development (R&D) and scientific and technological services (STS) projects, for a total estimated cost of US\$9.1 million, at least 75 percent of which will be earmarked for R&D projects with results that can be immediately transferred to the productive sectors and STS projects; (b) eight science and technology infrastructure projects, for a total value of US\$3.5 million, to be executed in five universities; (c) establishment and

operation of a financing facility for around 30 private-sector innovation and modernization projects, for a total value of US\$2.5 million; (d) training of approximately 125 persons in postgraduate programs in Ecuador and abroad, in disciplines pertaining to the program's priority areas (US\$4.9 million); (e) strengthening the national science and technology system and the technical, operating, and promotional agency of that system, the Fundación para la Ciencia y la Tecnología [Science and Technology Foundation] (FUNDACYT) by means of studies, dissemination of information, and other activities (US\$1.8 million). In addition, repayment of the PPF and part of the incremental costs incurred by FUNDACYT in executing the program will be financed (US\$2.7 million).

**ENVIRONMENTAL
CLASSIFICATION:**

At its meeting of April 8, 1991, the Environment Committee (EC) classified this project as a Category II operation.

IMPACT ON POVERTY:

The program is specifically designed to improve the national capacity to develop, absorb, adapt, and use science and technology. Accordingly, the operation does not conform to any of the criteria that would classify it as targeting poverty reduction, as set forth in the report on the Eighth Replenishment.

BENEFITS:

The operation will increase the country's capacity to: (a) conduct scientific and technological research and make use of the findings thereof; (b) absorb science and technology from abroad; (c) promote cooperation between the academic sector and the productive sector of the economy; and (d) retain professionals specially trained for scientific and technological work.

RISKS:

Since FUNDACYT has been recently established, with new procedures for allocating resources and newly hired personnel, there is a risk that program execution will be slow and operating capacity limited at the outset of the operation. To diminish these risks and pave the way for the consolidation of FUNDACYT as an agency to promote a coordinated science and technology program: (a) a sample equivalent to 75 percent of the research, services, and infrastructure projects to be executed by the universities and research centers has been prepared; (b) clear-cut rules and procedures have been drawn up to regulate execution of all components; (c) highly qualified personnel have been recruited, including the best of those trained during program preparation; and (d) a specialized institution has been identified to administer the scholarships abroad.

The usual risk that the activities included under the program will not be continued once execution has been completed must also be considered. Building up national capacity in this field and the type of economic and social benefits derived therefrom normally have long gestation periods. If future governments do not allocate the necessary funds to continue financing the scientific and technological activities initiated under the program, the desired objective will not be attained. Proper execution of this program would contribute to future continuity of that financing. To diminish this risk, it has been proposed that the borrower set up a stable source of funds to ensure the future operation of FUNDACYT.

**EXCEPTIONS TO
BANK POLICY:**

As an exception to the policies on contracting consulting firms, FUNDACYT will contract the Latin American Scholarship Program of American Universities (LASPAU) to administer the scholarships abroad component. This is justified by the technical advantages of this specialized agency in terms of experience, cost, and coordination capacity.

**THE BANK'S
COUNTRY AND
SECTOR STRATEGY:**

The program is consistent with the Bank's strategy in Ecuador to support efforts to modernize the state and the productive sectors of the economy. Based on the Law on State Modernization and Privatization, Ecuador has replaced a government agency (CONACYT) with FUNDACYT, a private agency with a more flexible structure that can pay competitive private-sector salaries. As a result, an improvement is expected both in the efficiency and quality of the services provided.

**SPECIAL
CONTRACTUAL
CONDITIONS:**

Prior to the first disbursement: (a) SENACYT must sign a technical-cooperation and economic assistance agreement with FUNDACYT whereby the latter is authorized to accept the financing and the local counterpart funding and agrees to fulfill all the conditions set forth in the loan contract; (b) FUNDACYT must sign an agreement with the Corporación Financiera Nacional [National Finance Corporation] (CFN) to administer the financing for the private-sector innovation and technology modernization projects; (c) SENACYT must approve and FUNDACYT must implement the general regulations for program execution agreed on with the Bank; (d) FUNDACYT must implement the systems for administration and technical and financial monitoring of the projects financed; and (e) FUNDACYT must have reached agreement with the Bank on the organization and technical and administrative mechanisms that will

be used for procurement, pursuant to the procedures set forth in the annexes to the contract (paragraph 3.37).

Within three months after the date of eligibility for the first disbursement, FUNDACYT must sign a contract, acceptable to the Bank, with the agency that will be responsible for administering the scholarships abroad component (paragraph 3.38).

Within 30 months of the date on which the contract is signed, the borrower must: (a) have set aside, in a manner acceptable to the Bank, the equivalent of US\$10 million and have arranged to make over to SENACYT the annual income from these funds for transfer to FUNDACYT as a subsidy for a period of 15 years. The investments made with the funds must yield FUNDACYT a high enough return to ensure that the science and technology policy established and administered by SENACYT is viable; and (b) must have submitted a formalized legal instrument, acceptable to the Bank, attesting to the irrevocable transfer to FUNDACYT of the income from the above-mentioned investments (paragraph 3.39).